



Awareness and practice of family planning method by using oral contraceptives

A thesis paper submitted to the Department of Pharmacy in partial fulfillment for the requirement of the degree of Master of Pharmacy (M.Pharm)

Submitted by

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ID: 2014-3-79-012

Submitted to

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THIS THESIS PAPER
IS DEDICATED
TO MY BELOVED FAMILY...

Declaration by the Research Candidate

I, Mehnaj Tabassum, hereby declare that this dissertation, entitled “**Awareness and practice of family planning method by using oral contraceptives**” submitted to the Department of Pharmacy, East West University, in partial fulfillment for the requirement of the degree of Master of Pharmacy, is a genuine & authentic research work carried out by me under the guidance of Sufia Islam Ph.D., Professor, Department of Pharmacy, East West University, Dhaka, Bangladesh. The contents of this dissertation, in full or in parts, have not been submitted to any other Institute or University for the award of any Degree or Diploma of Fellowship.

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Certificate by the Supervisor

This is to certify that the dissertation, entitled “**Awareness and practice of family planning method by using oral contraceptives**” is a bona fide research work done, under our guidance and supervision by Mehnaj Tabassum (ID: 2014-3-79-012), in partial fulfillment for the requirement of the degree of Master of Pharmacy.

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Certificate by the Chairperson

This is to certify that the dissertation, entitled “**Awareness and practice of family planning method by using oral contraceptives**” is a bona fide research work done by Mehnaj Tabassum (ID: 2014-3-79-012), in partial fulfillment for the requirement of the degree of Master of Pharmacy.

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ABSTRACT

Contraception prevents unwanted pregnancy by interfering with the normal process of ovulation, fertilization, and implantation. Different types of methods are available to prevent pregnancy. Among them oral contraceptives are very effective method of birth control. The major forms of methods are: barrier methods, contraceptive pill, intrauterine method and male or female sterilization. Contraceptive pills contain sex hormones which prevent ovulation in the female. Maternal mortality is high in developing countries with 440 deaths per 100,000 live births. Before the age of 20, one in three women give birth which leads to high pregnancy-related morbidity and mortality rates. There are unsafe abortions and abortion related deaths each year that occur among women aged 15–19 years. Effective contraception can prevent the unsafe abortion, abortion related deaths and thereby reduce maternal and child mortality. Knowledge, attitude and practice of contraceptive methods is critical for a developing country like Bangladesh to prevent unwanted pregnancy. Thus the objective of the study are to identify the current usage, attitude and practice with regard to OCP in Dhaka and other districts. This study also aimed to identify the awareness of the family planning methods. Face-to-Face interview with semi-structured questionnaire was used to conduct this study. Only urban areas were covered (n=1300). Out of 1300 participants 600 (46%) were the user of OCP. Among them 47% participants were the new user and 53% were the old user. OCP was popular in 267 women for various reasons. Thirty percent felt that spouse does not feel satisfaction if they use condom and 20% women are suited by OCP. About 20% women interchangeably used two methods and 18% used OCP to prevent menstruation problems. About 11% used OCP because it is easy to use. There were several reasons for not using OCP among non-users. The reasons behind not using OCP were the spouse uses condoms, women wants to conceive, or OCP creates some side effects like dizziness etc. Almost all respondents were aware of OCP, condom and injection as family planning methods. Awareness of permanent methods was relatively low. Oral contraceptive pills are still a popular and well accepted method for family planning.

Chapter 1

Introduction

1. INTRODUCTION:

1.1 Overview of Oral Contraception:

Oral contraceptives (birth-control pills) are used to prevent pregnancy. Estrogen and progestin are two female sex hormones. Combinations of estrogen and progestin work by preventing ovulation. They also change the lining of the uterus to prevent pregnancy from developing and change the mucus at the cervix to prevent sperm (male reproductive cells) from entering. Oral contraceptives are a very effective method of birth control, but they do not prevent the spread of human immunodeficiency virus (HIV, the virus that causes acquired immunodeficiency syndrome [AIDS]) and other sexually transmitted diseases. Progestin-only oral contraceptives are an effective method of birth control, but they don't prevent the spread of sexually transmitted infections (STIs). Side effects including nausea, vomiting, abdominal pain, fatigue, headache, dizziness, breast tenderness, and irregular vaginal spotting or bleeding. COCPs type contraceptive have some problems with pregnant women, having heart diseases and liver diseases but it has no birth defect record (Harper *et al.*, 2005). This type is safe and easy to use.

It is estimated that 8 out of 100 women would get pregnant if each had a single act of unprotected intercourse in the second or third week of the menstrual cycle. Recent studies have shown that when correctly used COCs prevent 75% .Oral contraceptives are also sometimes used to treat heavy or irregular menstruation and endometriosis (a condition in which the type of tissue that lines the uterus grows in other areas of the body and causes pain, heavy or irregular menstruation, and other symptoms).

1.1.1 Estrogen and progesterone:

Ovaries produce and release two groups of sex hormones progesterone and estrogen. There are actually three major estrogens, known as estradiol, estrone, and estriol. These substances work together to promote the healthy development of female sex characteristics during puberty and to ensure fertility. Estrogen and progesterone, which are responsible for the various processes associated with the sexual characteristics in females. Estrogen and progesterone are steroid hormones which play a vital role in the regulation of mammalian reproduction. Primary action of these hormones is to regulate the development and function of the uterus of female body. These hormones act by regulating the transcription of specific genes mediated by their specific hormone receptors. These receptors are nuclear transcription factors, whose transcriptional regulatory activity is mediated by the binding of the specific steroid to these molecules. Once these receptors bind hormone, they can bind to specific *cis*-acting sequences in the promoter region of responsive genes and regulate transcription of these genes. In the regulation of transcription, these receptors interact with specific cofactors to activate the transcriptional machinery. A second gene family, the Steroid Receptor Co-activator SRC family, has been identified that serves to modulate the transcriptional activity of the hormone receptors. To date, three members of the SRC family have been identified. During the last decade, gene targeting technology has been used to identify the role of these receptors in the regulation of reproduction and uterine biology (Urban *et al.*, 2012)

1.1.2 Progesterone and Estrogen Production:

Progesterone and estrogen are necessary to prepare the uterus for menstruation, and their release is triggered by the hypothalamus. The ovaries release a single egg each month called ovulation. The hypothalamus sends a signal to the pituitary gland to release gonadotrophic substances (follicle stimulating hormone and luteinizing hormone). These hormones are essential to normal reproductive function including regulation of the menstrual cycle. As the egg migrates down the fallopian tube, progesterone is released. It is secreted by a temporary gland formed within the ovary after ovulation called the corpus luteum. Progesterone prepares the body for pregnancy by causing the uterine lining to thicken. If a woman is not pregnant, the corpus luteum disappears. If a woman is pregnant, the pregnancy will trigger high levels of estrogen and progesterone, which prevent further eggs from maturing. Progesterone is secreted to prevent uterine contractions that may disturb the growing embryo. The hormone also prepares the breasts for lactation. Increased estrogen levels near the end of pregnancy alert the pituitary gland to release oxytocin, which causes uterine contractions. Before delivery, the ovaries release relaxin, which as the name suggests, loosens the pelvic ligaments in preparation for labor (Goldstein *et al.*, 2013).

1.1.3 Activation of Estrogen and Progesterone:

Steroids like estrogens and progesterone are small, hydrophobic molecules that are transported in the blood bound to a serum globulin.

- In "target" cells, i.e., cells that change their gene expression in response to the hormone, they bind to receptor proteins located in the cytoplasm and/or nucleus.

- The hormone-receptor complex enters the nucleus (if it formed in the cytoplasm) and
- binds to specific sequences of DNA, called the estrogen (or progesterone) response elements
- Response elements are located in the promoters of genes.
- The hormone-receptor complex acts as a transcription factor (often recruiting other transcription factors to help) which
- turns on (sometimes off) transcription of those genes.
- Gene expression in the cell produces the response

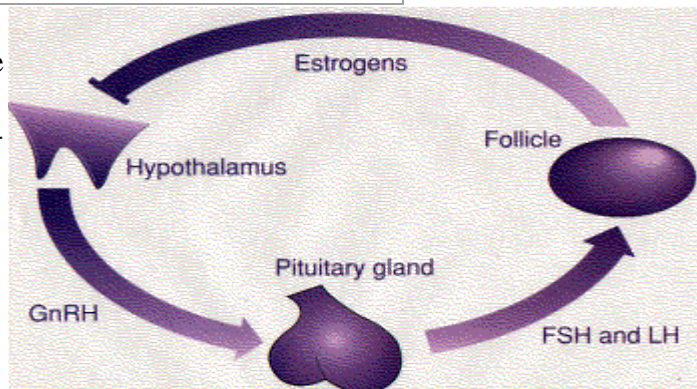
Some "target" cells also have other types of estrogen and progesterone receptors that are embedded in a membrane (endoplasmic reticulum and plasma membrane respectively). Binding of the hormone to them produces more rapid effects than those of the nuclear receptors. For example, human sperm have receptors that within a second of being exposed to progesterone activate the sperm to increased motility (Cui *et al.*, 2013).

1.1.4 Regulation of Estrogen and Progesterone

The synthesis and secretion of **estrogens** is stimulated by follicle-stimulating hormone (FSH), which is, in turn, controlled by the hypothalamic gonadotropin releasing hormone (GnRH).

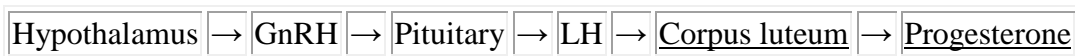


High levels of estrogens **suppress** the release of GnRH providing a negative-feedback control of hormone levels.



Secretion of GnRH depends on certain neurons in the hypothalamus which express a gene (*KISS-1*) encoding a protein of 145 amino acids. From this are cut several short peptides collectively called **kisspeptin**. These are secreted and bind to G-protein-coupled receptors on the surface of the GnRH neurons stimulating them to release GnRH. However, high levels of estrogen (or progesterone or testosterone) inhibit the secretion of kisspeptin and suppress further production of those hormones (Glenda *et al.*, 2010)

Progesterone production is stimulated by luteinizing hormone (LH), which is also stimulated by GnRH.

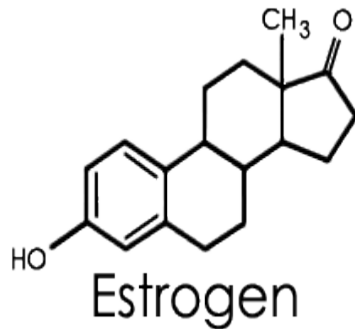


1.1.5 Estrogen:

Estrogen is a powerful female sex hormone and steroid. Most of the estrogens are secreted by the ovaries and small amounts secreted by the adrenal glands. Initially it makes girls develop into women at puberty by stimulating breast growth, laying down fatty deposits, thickening the vagina and causing it to secrete mucous. It affects how our skin looks, whether our bones are strong and healthy and it can protect us against heart disease. It also regulates our menstrual cycle. At the beginning of our cycle about 30 egg follicles will start to ripen and produce estrogen. When levels of estrogen in the blood are highest the hypothalamus in the brain release hormones that make a follicle release an egg. It is produced by the ovaries and naturally declines after the woman goes through the menopause. The three major naturally occurring **estrogens** in

women are estrone (E1), **estradiol** (E2), and estriol (E3). **Estradiol** is the predominant **estrogen** during reproductive years both in terms of absolute serum levels as well as in terms of **estrogenic** activity (Cui *et al.*, 2013).

The structure of Estrogen



Functions:

Estrogens are present in both men and women, they are usually at significantly higher levels in women of reproductive age. They promote the development of female secondary sexual characteristics, such as breasts, pubic hair, and female fat distribution. They are also involved in the thickening of the endometrium and other aspects of menstrual cycle regulation (Samavat *et al.*, 2014)

Other functions of and structural changes induced by estrogen include:

- Increasing the size of female reproductive organs
- Thickening of the endometrium and development of endometrial glands
- Deposition of fat in the mons pubis, enlargement of labia
- Formation of female secondary sex characteristics

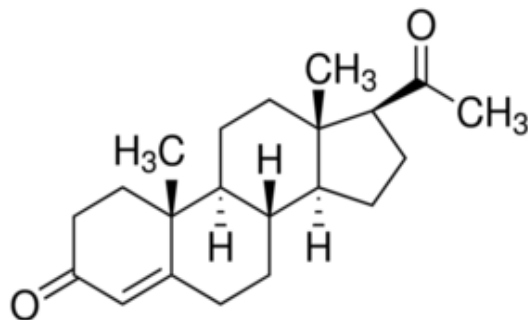
- Accelerating metabolism
- Increasing fat stores
- Increasing uterine growth
- Increasing vaginal lubrication
- Thickening the vaginal wall
- In fallopian tubes – increase in ciliated epithelial cells to help push the ovum out
- Maintaining blood vessels and skin
- Reducing bone resorption, increasing bone formation
- Reducing muscle mass
- They antagonize the effects of the parathyroid hormone, minimizing the loss of calcium from bones and thus helping to keep bones strong.
- They promote blood clotting (Charlotte *et al.*, 2006)

1.1.6 Progesterone:

Progesterone is a steroid hormone involved in the female menstrual cycle, pregnancy and embryogenesis of humans and other species. It is one kind of female sex hormones produced by the ovaries and adrenal glands. It belongs to a class of hormones called progestogens and is the major naturally occurring human form in this category. Progesterone exerts its primary action through the intracellular progesterone receptor, although a distinct, membrane-bound progesterone receptor has also been postulated. Progesterone has a number of physiological effects that are amplified in the presence of estrogen. Estrogen, through estrogen receptors, up-regulates the expression of progesterone receptors. It is sometimes called the "hormone of pregnancy". It converts the endometrium to its secretory stage to prepare the uterus for

implantation. At the same time, it affects the vaginal epithelium and cervical mucus, making them thick and impenetrable to sperm. If pregnancy does not occur, progesterone levels will decrease, leading to menstruation. Normal menstrual bleeding is progesterone-withdrawal bleeding. If ovulation does not occur and the corpus luteum does not develop, its levels may be low, leading to anovulatory dysfunctional uterine bleeding. During implantation and gestation, progesterone appears to decrease the maternal immune response to allow for the acceptance of the pregnancy and decrease contractility of the uterine smooth muscle. But high levels of progesterone are thought to be responsible for symptoms of PMS (pre-menstrual syndrome). These can include breast tenderness, bloat and mood swings (Ricardo *et al.*, 2013)

The structure of Progesterone:



Functions:

Progesterone has key effects via non-genomic signalling on human sperm as they migrate through the female tract before fertilization occurs. In addition, progesterone inhibits lactation during pregnancy. A drop in its levels facilitates the onset of labor. Another drop following delivery is one of the triggers for milk production. The fetus metabolizes placental progesterone in the production of adrenal steroids.

Other functions include

- Maintaining and helping to sustain pregnancy
- To encourage the endometrium to secrete proteins in the second half of the menstrual cycle in preparation for a fertilized egg.
- Promotes development of breast alveoli and lobules
- Nourishing of fertilized ovum (Julie *et al.*, 2013)

1.2 Contraception, maternal health and child mortality:

Contraception is a process that prevents unwanted pregnancy by interfering with the normal process of ovulation, fertilization, and implantation. Different kinds of birth control processes are available to mitigate the needs at different points in the process. For the improvement of maternal health and reduction of child mortality there should be an access to safe and effective methods of fertility control which has been mentioned in Millennium Development Goals. Family planning should be promoted for avoiding the unwanted pregnancy which is the central to the WHO work. Maternal mortality is high in developing countries with 440 deaths per 100,000 live births. Before the age of 20, one in three women give birth which leads to high pregnancy-related morbidity and mortality rates. There are unsafe abortions and abortion related deaths each year that occur among women aged 15–19 years. Effective contraception can prevent the unsafe abortion, abortion related deaths and thereby reduce maternal and child mortality (Hubacher *et al.*, 2008; Lisa *et al.*, 2009).

1.2.1 Modern Contraceptive Method:

Modern contraceptive methods are technological advances designed to overcome biology so couples could act on natural impulses and desires with diminished risks of pregnancy, must enable couples to have sexual intercourse at any mutually-desired time. It's a medical procedure that interferes with reproduction from acts of sexual intercourse.

Instead, organizations and individuals who use the term simply name contraceptives and approaches that fit into their perception of that label. Thus, researchers who measure levels of modern contraceptive prevalence often differ in how they categorize particular methods. For example, the United Nations Population Fund (UNFPA) and the Guttmacher Institute name lactational amenorrhea as a traditional method, while the World Health Organization and researchers with the Demographic and Health Surveys label it as a modern method. These organizations differ on other classifications as well. The UNFPA places some types of periodic abstinence in the modern category while the United Nations Population Division labels all periodic abstinence techniques as traditional methods.

With a clear definition of modern contraception methods, the various products and approaches can be categorized easily. The methods that do not fit under the definition of modern can alternatively be labeled as “Non-Modern Methods”.

We emphasize that our classification does not address concepts of contraceptive effectiveness or efficacy. Specifically, the word modern should not be equated with higher efficacy. Indeed, in terms of effectiveness, some modern methods are demonstrably inferior to some of the non-modern methods. Some non-modern methods use technological enhancements to improve effectiveness. For example, a bead necklace was developed for the Standard Days Method to help women keep track of the fertile period; in addition, electronic calendars can aid in avoiding

sexual intercourse during the fertile period. High-technology devices have been developed to predict the fertile period. However, all of these technological improvements do not convert the approach to a modern contraceptive since they still require couples to avoid sex, or use a different method, on specific days of the menstrual cycle.

Lactational amenorrhea is not a modern method by our definition either. Though lactational amenorrhea can rival efficacy of the best modern approaches, women must experience pregnancy to use it. Thus, it does not meet a logical criterion to be considered modern in that respect (Hubacher and Trussell, 2015).

1.2.2 Classification of different contraceptive methods:

There are two contraceptive methods

1) Modern Methods:

- Sterilization (male and female)
- Intrauterine devices and systems
- Subdermal implants
- Oral contraceptives
- Condoms (male and female)
- Injectables
- Emergency contraceptives pills
- Patches
- Diaphragms and servical caps
- Spermicidal agents (gels, foams, creams, suppositories etc)

- Vaginal rings
- Sponges (Regine *et al.*, 2012)

2) Non- Modern Methods:

- Fertility awareness approaches
- Withdrawl
- Lactational amenorrhea
- Abstinence

The label Non-Modern was selected for ease of use and because labels incorporating terms such as traditional, nature, physiology, and others had many drawback.

This category includes the following: Standard Days Method, Calendar Rhythm Method, Two-Day method, billings. Ovulation Method and the use of devices that help predict the fertile period.

1.2.3 Different types of contraception

All contraceptive methods are not appropriate for all situations, and the most appropriate method of birth control depends on a woman's overall health, age, frequency of sexual activity, number of sexual partners, desire to have children in the future, and family history of certain diseases. Some types carry serious risks, although those risks are elevated with pregnancy and may be higher than the risks associated with the various methods (Paul *et al.*, 1995).

The different methods of contraception include:

- Barrier methods
- Hormonal methods
- Emergency contraception
- Intrauterine methods
- Sterilization

Barrier Methods

This method is designed to prevent sperm from entering the uterus, barrier methods are removable and may be an option for women who cannot use hormonal methods of contraception.

Types of barrier methods:

- **Male condoms:** This is a thin sheath that covers the penis to collect sperm and prevent it from entering the woman's body. Male condoms are generally made of latex or polyurethane. Latex or polyurethane condoms reduce the risk of spreading sexually transmitted diseases (STDs). Male condoms are disposable after a single use.
- **Female condoms:** These are thin, flexible plastic pouches are inserted into a woman's vagina before intercourse to prevent sperm from entering the uterus. The female condom also reduces the risk of STDs. Female condoms are disposed of after a single use.

- **Diaphragms:** Each diaphragm is a shallow, flexible cup made of latex or soft rubber that is inserted into the vagina before intercourse, blocking sperm from entering the uterus. Spermicidal cream or jelly should be used with a diaphragm. The diaphragm should remain in place for 6 to 8 hours after intercourse to prevent pregnancy, but it should be removed within 24 hours. Traditional latex diaphragms must be the correct size to work properly, and a health care provider can determine the proper fit (Harper *et al.*, 2005)
- **Cervical caps:** These are smaller, more rigid, and less noticeable and similar to diaphragms. The cervical cap is a thin silicone cup that is inserted into the vagina before intercourse to block sperm from entering the uterus. This should be used with spermicidal cream or jelly. The cap must remain in place for 6 to 8 hours after intercourse to prevent pregnancy, but it should be removed within 48 hours.
- **Contraceptive sponges:** These are soft, disposable, spermicide-filled foam sponges. One is inserted into the vagina before intercourse. The sponge blocks sperm from entering the uterus, and the spermicide also kills the sperm cells. The sponge should be left in place for at least 6 hours after intercourse and then removed within 30 hours after intercourse (Lindh *et al.*, 2016).
- **Spermicides:** A spermicide destroys sperm which can be used alone or in combination with a diaphragm or cervical cap. The most common spermicidal agent is a chemical called nonoxynol-9. It is available in several concentrations and forms, including foam, jelly, cream, suppository, and film.

Hormonal Methods

In this method hormone is used to regulate or stop ovulation and prevent pregnancy. Ovulation is the biological process in which the ovary releases an egg, making it available for fertilization. Hormones can be introduced into the body through various methods, including pills, injections, skin patches, transdermal gels, vaginal rings, intrauterine systems, and implantable rods (Jessica *et al.*, 2015)

Different types of Hormonal methods like

- **Combined oral contraceptives ("the pill"):** Combined oral contraceptive pills (COCs) contain different combinations of the synthetic estrogens and progesteron and are given to interfere with ovulation. Use of COC pills is not recommended for women who smoke tobacco and are more than 35 years old or for any woman who has high blood pressure, a history of blood clots, or a history of breast, liver, or endometrial cancer (Urban *et al.*, 2012)
- **Progestin-only pills (POPs):** Progestin-only pills may interfere with ovulation or with sperm function. POPs thicken cervical mucus, making it difficult for sperm to swim into the uterus or to enter the fallopian tube which alter the normal cyclical changes in the uterine lining and may result in unscheduled or breakthrough bleeding. These hormones do not appear to be associated with an increased risk of blood clots.
- **Contraceptive patch:** This is a thin, plastic patch that sticks to the skin and releases hormones through the skin into the bloodstream, is placed on the lower abdomen, buttocks, outer arm, or upper body. A new patch is applied once a week for 3 weeks, and no patch is used on the fourth week to enable menstruation.

- **Vaginal rings.** The ring is thin, flexible, and approximately 2 inches in diameter. It delivers a combination of a synthetic estrogen and a progestin. The ring is inserted into the vagina, where it continually releases hormones for 3 weeks.
- **Implantable rods:** Each rod is matchstick-sized, flexible, and plastic which inserts under the skin of the woman's upper arm. The rods release a progestin and can remain implanted for up to 5 years.

Emergency Contraceptive Pills (ECPs): Emergency contraception (EC) is the use of an emergency contraceptive regimen in the first few days following unprotected intercourse, in order to prevent pregnancy (Goldstein *et al.*, 2013).

Three main types of EC are available, namely:

- combined oral contraceptives (COCs) at a higher dose than that used for continuous contraception
- Progestogen-only pills (POPs) at a higher dose than that used for continuous contraception
- Copper intrauterine devices (IUDs).

Intrauterine Methods

This is a small, T-shaped device that is inserted into the uterus to prevent pregnancy. An IUD can remain and function effectively for many years at a time. After the recommended length of time this device must be removed or replaced (Trussell *et al.*, 2014).

Types of this method

- A **copper IUD** releases a small amount of copper into the uterus, causing an inflammatory reaction that generally prevents sperm from reaching and fertilizing the egg. If fertilization of the egg does occur, the physical presence of the device prevents the fertilized egg from implanting into the lining of the uterus. Copper IUDs may remain in the body for 12 years. A copper IUD is not recommended for women who may be pregnant, have pelvic infections, or had uterine perforations during previous IUD insertions. It also is not recommended for women who have cervical cancer or cancer of the uterus, unexplained vaginal bleeding, or pelvic tuberculosis.
- A **hormonal IUD** releases a progestin hormone into the uterus. The released hormone causes thickening of the cervical mucus, inhibits sperm from reaching or fertilizing the egg, thins the uterine lining, and also may prevent the ovaries from releasing eggs (Melissa and Ppler, 2013).

Sterilization

Sterilization is a permanent form of birth control that either prevents a woman from getting pregnant or prevents a man from releasing sperm. A health care provider must perform the sterilization procedure, which usually involves surgery. These procedures usually are not reversible (Karina *et al.*, 2014)

- A **sterilization implant** is a nonsurgical method for permanently blocking the fallopian tubes. No incisions are necessary. During the next 3 months, scar tissue forms around the

inserts and blocks the fallopian tubes so that sperm cannot reach an egg. After 3 months, a health care provider conducts tests to ensure that scar tissue has fully blocked the fallopian tubes.

- **Tubal ligation** is a surgical procedure in which a doctor cuts, ties, or seals the fallopian tubes. This procedure blocks the path between the ovaries and the uterus. The sperm cannot reach the egg to fertilize it, and the egg cannot reach the uterus.
- **Vasectomy:** is a surgical procedure that cuts, closes, or blocks the vas deferens. This procedure blocks the path between the testes and the urethra. The sperm cannot leave the testes and cannot reach the egg. It can take as long as 3 months for the procedure to be fully effective (Harper *et al.*, 2005).

1.2.4 Advantages and Disadvantages Contraception Methods:

1. Birth Control Pills (Oral Contraceptives)

Advantages:

- Lighter, more regular menstrual periods.
- Decreased premenstrual problems.
- No interruption at time of intercourse.
- Some protection against endometrial and ovarian cancer.

High rate of effectiveness.

Disadvantages:

- Must remember to take pill every day.
- Minor side effects (usually disappear within 3 months): headaches, nausea, water retention, light bleeding.
- Some major side effects (very rare in non-smokers and those under age 40): elevated blood pressure, gallbladder disease, heart attack, and liver tumors.
- No protection against STIs.

2. Condoms & Spermicides**Advantages:**

- Used only when needed.
 - No hormonal or chemical changes in the body.
 - Some protection against STIs It is less expensive than other methods.
- No prescription or visit required.

Disadvantages:

- Condom must be put on and foam inserted just before intercourse
- Dry condoms may cause irritation for women unless extra lubrication is added
- or spermicide Taste of spermicide may be unpleasant

3. Contraceptive Patch

Advantages:

- Possible allergy to the condom can be avoided
- Continuous protection for one month.
- No interruption at time of intercourse.

Disadvantages:

- Potential side-effects similar to birth control pills.
- Women over 198 lbs. may have decreased pregnancy protection.
- Potential for skin irritation at the patch site.
- Risk for blood clots is slightly higher than if on BC pills.
- No protection against STIs.

4. Depo-Provera

Advantages:

- Very effective.
- Just need a shot every 12 weeks.
- It is reversible. Once you stop using it, you can usually become pregnant within 1 year.
- Can be used by some women who cannot use the pill.

Disadvantages:

- No protection against STIs
- Irregular menstrual bleeding
- Can cause headaches, acne, depression, weight gain, and decrease in bone density, with increased risk of osteoporosis).
- Should not be used if blood clots, liver disease, or breast cancer.
- No protection from STIs.
- Low birth weight baby possible if given during pregnancy
- Ability to get pregnant may be slow to return.

5. I.U.D**Advantages:**

- Continuous protection.
- No interruption at the time of intercourse.
- Nothing to do except check the string.

Disadvantages:

- Spotting with Mirena IUD.
- Pain at the time of IUD insertion and removal
- Perforation of the uterus possible.
- Expulsion from uterus. No protection against STIs.

6. Nexplanon

Advantages:

- Continuous protection if inserted week of menses

Disadvantages:

- Spotting/Bleeding.
- Headaches.
- Acne.
- Weight gain.
- No protection against STIs.

7. Vaginal Contraceptive Ring

Advantages:

- Continuous protection for one month.
- Usually lighter menstrual flow with less cramping.

Disadvantages:

- Potential side effects like birth control pills.
- Potential for vaginal irritations.
- Issues related to inserting and replacing.
- No protection against STIs.

1.2.5 Oral Contraceptives:

Oral contraceptives (birth control pills) are medications that prevent pregnancy. They are one method of birth control. Oral contraceptives are hormonal preparations that may contain combinations of the hormones estrogen and progestin or progestin alone. Combinations of estrogen and progestin prevent pregnancy by inhibiting the release of the hormones luteinizing hormone (LH) and follicle stimulating hormone (FSH) from the pituitary gland in the brain. LH and FSH play key roles in the development of the egg and preparation of the lining of the uterus for implantation of the embryo. Progestin also makes the uterine mucus that surrounds the egg more difficult for sperm to penetrate and, therefore, for fertilization to take place. In some women, progestin inhibits ovulation (release of the egg).

There are different types of combination birth control pills that contain estrogen and progestin that are referred to as "monophasic," "biphasic," or "triphasic" (Melissa and ppler, 2016).

- Monophasic birth control pills deliver the same amount of estrogen and progestin every day.
- Biphasic birth control pills deliver the same amount of estrogen every day for the first 21 days of the cycle. During the first half of the cycle, the progestin/estrogen ratio is lower to allow the lining of the uterus (endometrium) to thicken as it normally does during the menstrual cycle. During the second half of the cycle, the progestin/estrogen ratio is higher to allow the normal shedding of the lining of the uterus to occur.
- Triphasic birth control pills have constant or changing estrogen concentrations and varying progestin concentrations throughout the cycle. There is no evidence that bi- or triphasic oral contraceptives are safer or superior to monophasic oral contraceptives, or vice versa, in their effectiveness for the prevention of pregnancy

Formulations:

Oral contraceptives come in a variety of formulations, some containing both estrogen and progestin, and some only containing progestin. Doses of component hormones also vary among products, and some pills are monophasic others are multiphasic.

COCPs have been somewhat inconsistently grouped into "generations" in the medical literature based on when they were introduced.

- First generation COCPs are sometimes defined as those containing the progestins norethynodrel, norethisterone, norethisterone acetate, or etynodiol acetate; and sometimes defined as all COCPs containing $\geq 50 \mu\text{g}$ ethinyl estradiol (Lindh *et al.*, 2016).
- Second generation COCPs are sometimes defined as those containing the progestins norgestrel or levonorgestrel; and sometimes defined as those containing the progestins norethisterone, norethisterone acetate, etynodiol acetate, norgestrel, levonorgestrel, or norgestimate and $< 50 \mu\text{g}$ ethinyl estradiol.
- Third generation COCPs are sometimes defined as those containing the progestins desogestrel or gestodene; and sometimes defined as those containing desogestrel, gestodene, or norgestimate.
- Fourth generation COCPs are sometimes defined as those containing the progestin drospirenone; and sometimes defined as those containing drospirenone, dienogest, or nomegestrol acetate (Paul *et al.*, 1995).

Function:

Oral contraceptives work by suppressing ovulation so that no egg is released by the ovaries for fertilization by sperm. Ovulation is suppressed through the actions of the hormones estrogen alone or a combination of estrogen and progestin that the birth control pill contains. The birth control pill doesn't just prevent unplanned pregnancy, it also offers a number of other benefits to the women who use it. In fact, women who take the pill for at least one year are 40 percent less likely to develop uterine cancer and ovarian cancer. Other important benefits of the birth control pill include regulating irregular periods, controlling acne, reducing menstrual cramps and relieving the symptoms of premenstrual syndrome (PMS). The hormones contained in oral contraceptives also provide a protective effect against pelvic inflammatory disease, a major cause of infertility. This protection is caused by the increased thickness of the cervical mucus that occurs when oral contraceptives are used. The thickened cervical mucus helps to keep bacteria from entering the vagina, and possibly the uterus and fallopian tubes, where pelvic inflammatory disease can occur (Salvaggio and Zaenglein., 2010).

Other Benefits:

Not only preventing pregnancy but also another use of Oral Contraceptives like

- **Acne**

Acne is associated with excessive androgen levels, and oral contraceptives reduce the amount of androgen and this works depends on the specific hormone combination in a particular birth control pill (Salvaggio and Zaenglein., 2010).

- **Breast Pain**

Oral contraceptives help alleviate what's known as "cyclic breast pain"—breast pain specifically linked to menstrual cycle.

- **Ectopic Pregnancy**

The Pill lowers the risk of an ectopic pregnancy, which occurs when a fertilized egg attaches itself somewhere other than the lining of the uterus.

- **Endometriosis**

Combination birth control pills help prevent and treat this condition, which causes painful periods and can lead to fertility issues.

- **Functional Ovarian Cysts**

These are the most common type of ovarian cyst and usually dissolve within two menstrual cycles without treatment. Oral contraceptives may help prevent this type of ovarian cyst by preventing ovulation.

- **Hirsutism**

Polycystic ovarian syndrome (PCOS) is the most common cause of this condition which results in excessive amounts of hair in places where men typically grow it the face, chest, and back. Oral contraceptives can improve or stabilize up to 50 percent of cases caused by PCOS.

- **Iron Deficiency Anemia**

The Pill may help improve anemia in women who have very heavy periods

- **Metrorrhagia**

Women who experience abnormal bleeding from the uterus can often regulate their menstrual cycle with oral contraceptives, if after close medical investigation the abnormal bleeding is not found to be a symptom of a more serious condition.

- **Mittelschmerz**

Oral contraceptives block the surge of hormones that occurs midway through a menstrual cycle and are often effective in relieving mid-cycle or ovulation pain (mittelschmerz is German for "middle pain").

- **Ovarian and Endometrial Cancer**

Women on the Pill experience these types of cancer at about half the rate of non-users. It's important to note, however, that the Pill may increase the risk of breast cancer and cervical cancer if you've been taking it for more than five years.

- **Premenstrual Syndrome (PMS)**

Many women on the Pill experience fewer symptoms of PMS. Other treatments and lifestyle modifications provide relief, too.

- **Uterine Fibroid Tumors**

According to the National Library of Medicine, oral contraceptives may be an effective treatment for uterine fibroid tumors.

Side effects:

- nausea
- vomiting
- stomach cramps or bloating
- diarrhea
- constipation
- gingivitis (swelling of the gum tissue)
- increased or decreased appetite
- weight gain or weight loss
- brown or black skin patches
- acne
- hair growth in unusual places
- bleeding or spotting between menstrual periods
- changes in menstrual flow
- painful or missed periods
- breast tenderness, enlargement, or discharge
- swelling, redness, irritation, burning, or itching of the vagina
- White vaginal discharge (Salvaggio and Zaenglein, 2010).

Storage and disposal system:

Keep this medication in the packet it came in, tightly closed, and out of reach of children. Store it at room temperature and away from excess heat and moisture (not in the bathroom).

Unneeded medications should be disposed of in special ways to ensure that pets, children, and other people cannot consume them. However, should not flush this medication down the toilet. Instead, the best way to dispose of medication is through a medicine take-back program.

1.2.6 Combined oral contraceptive:

The combined oral contraceptive pill (COCP), often referred to as the birth control pill or colloquially as "the pill", is a birth control method that includes a combination of an estrogen and a progestogen. Combined oral contraceptive pills should be taken at the same time each day. If one or more tablets are forgotten for more than 12 hours, contraceptive protection will be reduced. A woman on the pill will have a withdrawal bleed sometime during the placebo week, and is still protected from pregnancy during this week. There are also two newer combination birth control pills (Yaz 28 and Loestrin 24 Fe) that have 24 days of active hormone pills, followed by 4 days of placebo (Franca *et al.*, 2012)

COCPs provide effective contraception from the very first pill if started within five days of the beginning of the menstrual cycle (within five days of the first day of menstruation). If started at any other time in the menstrual cycle, COCPs provide effective contraception only after 7 consecutive day's use of active pills, so a backup method of contraception must be used until

active pills have been taken for 7 consecutive days. COCPs should be taken at approximately the same time every day.

Contraceptive efficacy may be impaired by:

- 1) Missing more than one active pill in a packet,
- 2) Delay in starting the next packet of active pills (i.e., extending the pill-free, inactive or placebo pill period beyond 7 days),
- 3) Intestinal malabsorption of active pills due to vomiting or diarrhea,
- 4) Drug interactions with active pills that decrease contraceptive estrogen or progestogen levels.

The effectiveness of the combined oral contraceptive pill appears to be similar whether the active pills are taken continuously for prolonged periods of time or if they are taken for 21 active days and 7 days as placebo.

Instruction for missed pills:

- Less than 12 hours: take the pill that was missed as soon as possible.
- Between 12 and 24 hours: take one pill as soon as possible and refrain from intercourse or use another contraception method.
- More than 24 hours: take one pill as soon as possible and ask a doctor if a second pill should be taken that day and whether the missed pill(s) should still be used this month.
Refrain from intercourse or use other methods of contraception for at least 7 days.

- If menstruation occurs, wait one week then start a new set of pills. If the pills do not use a monthly cycle, ask a doctor for information.

Mechanism of action

Combined hormonal contraceptives (COCPs), inhibit follicular development and prevent ovulation as a primary mechanism of action, were developed to prevent ovulation by suppressing the release of gonadotropins. Progestogen negative feedback decreases the pulse frequency of gonadotropin-releasing hormone (GnRH) release by the hypothalamus, which decreases the secretion of follicle-stimulating hormone (FSH) and greatly decreases the secretion of luteinizing hormone (LH) by the anterior pituitary. Decreased levels of FSH inhibit follicular development, preventing an increase in estradiol levels. Progestogen negative feedback and the lack of estrogen positive feedback on LH secretion prevent a mid-cycle LH surge. Inhibition of follicular development and the absence of a LH surge prevent ovulation. Estrogen was originally included in oral contraceptives for better cycle control (to stabilize the endometrium and thereby reduce the incidence of breakthrough bleeding), but was also found to inhibit follicular development and help prevent ovulation. Estrogen negative feedback on the anterior pituitary greatly decreases the secretion of FSH, which inhibits follicular development and helps prevent ovulation

Another primary mechanism of action of all progestogen-containing contraceptives is inhibition of sperm penetration through the cervix into the upper genital tract (uterus and fallopian tubes) by decreasing the water content and increasing the viscosity of the cervical mucus.

The estrogen and progestogen in COCPs have other effects on the reproductive system,

- Slowing tubal motility and ova transport, which may interfere with fertilization.

- Endometrial atrophy and alteration of metalloproteinase content, which may impede sperm motility and viability, or theoretically inhibit implantation.
- Endometrial edema, which may affect implantation.

The primary mechanisms of action are so effective that the possibility of fertilization during COCP use is very small. Since pregnancy occurs despite endometrial changes when the primary mechanisms of action fail, endometrial changes are unlikely to play a significant role, if any, in the observed effectiveness of COCPs (Melissa and Ppler, 2013).

Protective effects

COCPs decrease the risk of ovarian cancer, endometrial cancer, and colorectal cancer. The use of oral contraceptives (birth control pills) for five years or more decreases the risk of ovarian cancer in later life by 50%. Combined oral contraceptive use reduces the risk of ovarian cancer by 40% and the risk of endometrial cancer by 50% compared with never users. The risk reduction increases with duration of use, with an 80% reduction in risk for both ovarian and endometrial cancer with use for more than 10 years. The risk reduction for both ovarian and endometrial cancer persists for at least 20 years (Vogt and Schaefer., 2011).

Chapter 2

Literature Search

2. Literature search

2.1 Contraceptive use in the Nordic countries:

2.1.1 Aim:

The aim was to compare contraceptive use in the Nordic countries and to assess compliance with recommendations from the European Medicines Agency regarding the use of combined oral contraceptives (COC) containing low dose estrogen and levonorgestrel, norethisterone or norgestimate

2.1.2 Methods:

Data on hormonal contraceptive prescriptions and sales figures for copper intrauterine devices (Cu-IUD) were obtained from national databases and manufacturers in Denmark, Finland, Iceland, Norway and Sweden 2010-2013

2.1.3 Results:

Contraceptive use was highest in Denmark (42%) and Sweden (41%), followed by Finland (40%). COC were the most used method in all countries with the highest use in Denmark (26%). The second most used method was the levonorgestrel-releasing intrauterine system (LNG-IUS) with highest use in Finland (15%) and 10% in the other countries. Cu -IUDs (7%) and the progestin-only pill (7%) were most often used in Sweden. COC use decreased with increasing age and LNG-IUS and progestin-only pills use increased. The use of long acting reversible methods of contraception (= LNG-IUS, Cu-IUD, and implants) increased by time and was

highest in Sweden (20%) and Finland (18%). The highest use of European Medicines Agency recommended COC was in Denmark, increasing from 13 - 50% between 2010-2013. In Finland the recommended COC remained below one per cent

2.1.4 Conclusions:

Contraceptive use was highest in Denmark and Sweden, LNG-IUS use was highest in Finland and all long acting methods were most common in Sweden. The use of COC recommended by the European Medicines Agency was highest in Denmark. This article is protected by copyright. All rights reserved (Lindh *et al.*, 2016).

2.2 Prevalence of contraceptive use in New Zealand women:

2.2.1 Aims:

To estimate the prevalence of contraceptive use among New Zealand women and to measure changes in contraceptive use since the last population-based prevalence estimates were published in 1988.

2.2.2 Methods:

Nine hundred and four women, aged 35-69 years were randomly selected from the electoral roll. A postal questionnaire was used to gather information on contraceptive use, socio-demographic characteristics and risk factors for ovarian cancer. Data were collected in 2013-2015. Estimates of current and ever-use of contraceptives were made and compared with the findings of the 1988 study by Paul *et al.* In both studies, participants were members of the control arm of case-control studies.

2.2.3 Results:

The study by Paul et al had a response proportion of 84%, whereas that of the current study was 47%. Oral contraceptives had the highest prevalence of ever-use among women aged 35-69 years (89% [347/389]), followed by condom use (54% [211/389]) and vasectomy (44% [170/389]). Compared to the previous study, there has been an increase in ever-use of condoms (24% [185/767] to 64% [148/231]), vasectomy (26% [202/767] to 40% [92/231]) and oral contraceptives (75% [575/767] to 89% [205/231]) among women aged 35-54 years. In contrast, a lower prevalence of tubal ligation (22% [168/767] to 8% [19/231]) was observed.

2.2.4 Conclusions:

The study demonstrates a change in patterns of contraceptive use among women aged 35-54 years. The prevalence of ever-use of oral contraceptives and vasectomy remains high in New Zealand compared with other countries (Paul *et al.*, 1995).

2.3 Combined oral contraceptives: health benefits beyond contraception:

It has been recognized for over 50 years that combined oral contraceptives (COCs) are also capable of offering health benefits beyond contraception through the treatment and prevention of several gynaecological and medical disorders. During the last years a constant attention was given to the adverse effects of COCs, whereas their non-contraceptive benefits were underestimated. To date, most women are still unaware of the therapeutic uses of hormonal contraceptives, while on the contrary there is an extensive and constantly increasing of these non-contraceptive health benefits. This review summarizes the conditions of special interest for physicians, including dysmenorrhoea, menorrhagia, hyperandrogenism (acne, hirsutism, polycystic ovary syndrome), functional ovarian cysts, endometriosis, premenstrual syndrome,

myomas, pelvic inflammatory disease, bone mineral density, benign breast disease and endometrial/ovarian and colorectal cancer. The benefits of COCs in rheumatoid arthritis, multiple sclerosis, menstrual migraine and in perimenopause have also been treated for more comprehensive information. Using COCs specifically for non-contraceptive indications is still outside the product licence in the majority of cases. We strongly believe that these aspects are not of minor relevance and they deserve a special consideration by health providers and by the mass media, which have the main responsibility in the diffusion of scientific information. Thus, counseling and education are necessary to help women make well-informed health-care decisions and it is also crucial to increase awareness among general practitioners and gynaecologists (Vogt and Schaefer, 2011).

2.4 With pills, patches, rings, and shots: who still uses condoms? A longitudinal cohort study.

2.4.1 Purpose:

To describe women's condom use patterns over time and assess predictors of dual method use 12 months after initiating hormonal contraceptives.

2.4.2 Methods:

We conducted a prospective cohort study among women aged 15-24 years initiating oral contraceptive pills, patch, ring, or depot medroxyprogesterone and attending public family planning clinics. Participants completed questionnaires at baseline and 3, 6, and 12 months after enrollment. We used multivariable logistic regression to assess baseline factors associated with dual method use at 12 months among 1,194 women who were sexually active in the past 30 days.

2.4.3 Results:

At baseline, 36% were condom users, and only 5% were dual method users. After initiation of a hormonal method, condom use decreased to 27% and remained relatively unchanged thereafter. Dual method use increased to a peak of 20% at 3 months but decreased over time. Women who were condom users at baseline had nearly twice the odds of being a dual method user at 12 months compared with nonusers (adjusted odds ratio [AOR] = 2.01, 95% CI: 1.28-3.14). Women who believed their main partner thought condoms were "very important," regardless of perceived sexually transmitted infection risk or participant's own views of condoms, had higher odds of dual method use (AOR = 2.89, 95% CI: 1.47-5.71).

2.4.4 Conclusions:

These results highlight a potential missed opportunity for family planning providers. Providers focus on helping women initiate hormonal methods, however, they may improve outcomes by giving greater attention to method continuation and contingency planning in the event of method discontinuation and to the role of the partner in family planning (Goldstein *et al.*, 2013).

Chapter 3

Objectives

3. Objectives of the Study were to identify –

1. The current usage, attitude and practice with regard to OCP in Dhaka and other districts like Chittagong, Rajshahi, Khulna, Comilla and Sylhet.
2. The reasons why people switch between different contraceptive methods.
3. The awareness of the family planning methods.

Chapter 4

Materials and Methods

4. Materials and Methods

4.1 Study technique

We used quantitative technique to conduct the study.

4.2 Data Collection Technique

Face-to-Face interview with semi-structured questionnaire was used to conduct this study.

4.3 Target Respondents:

- Married Women in the Reproductive Age (MWRAs) (15-49 years) for oral contraceptives were interviewed.
- Users of any commercially sold oral contraceptive pill (OCP) as a family-planning method in Dhaka, Chittagong, Rajshahi, Khulna and Comilla.
- Currently non-users of OCP in Sylhet.

4.4 Sample Size and Coverage:

Table 1: Distribution of sample size according to Region.

	User of OCP	Non-user of OCP	User of CONDOM	User of ECP	TOTAL
Dhaka	200	-	100	31	331
Chittagong	100	-	100	22	222
Rajshahi	100	-	100	8	208
Khulna	100	-	100	22	222
Comilla	100	-	100	17	217
Sylhet	-	100	-	-	100
TOTAL	600	100	500	100	1300

A total of 1300 users of family planning method was interviewed. Only urban areas were covered in this study.

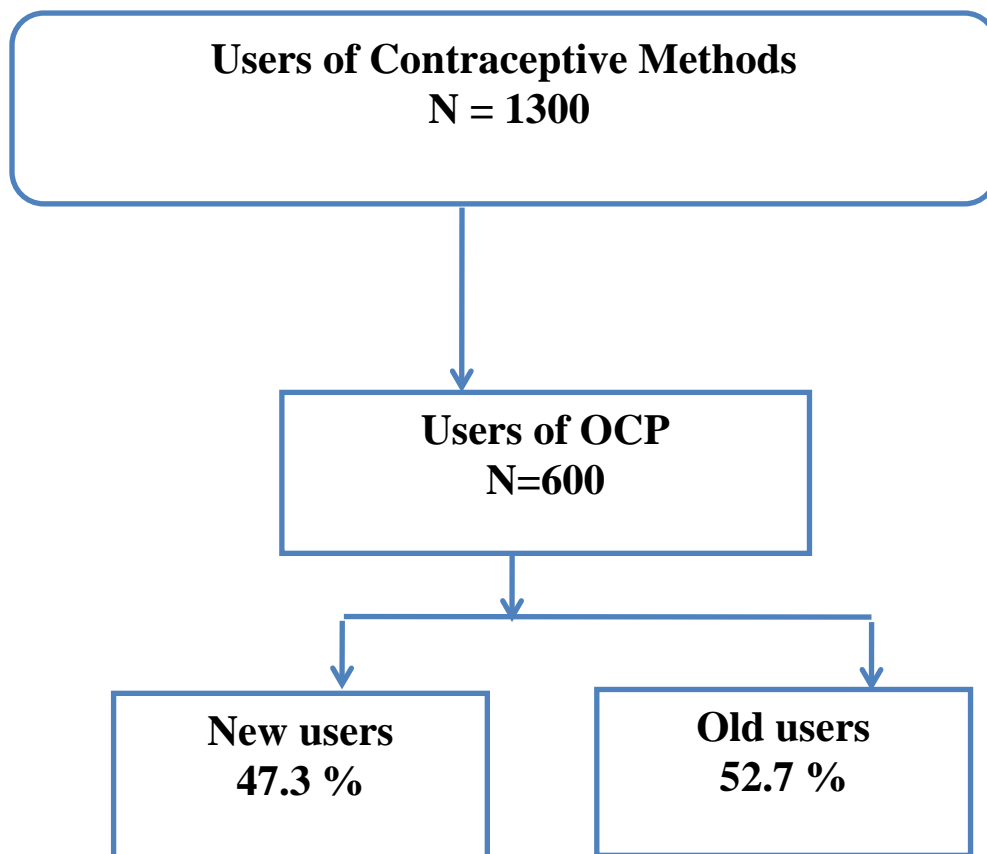
Chapter 5

Results

5. Results

5.1 Users of oral Contraceptive Methods

Fig 1: Old and new users of oral contraceptive pills (OCP)



The survey is done on the 1300 subjects. Among 1300 users, 600 used OCP for their fertility control. Here it can be seen that the old users of OCP is 52.7% and the new users of OCP is 47.3%.

5.2 Popularity of oral contraceptive pills

Table 2: Various reasons of using oral contraceptive pills among women (n=267)

	OCP (%)
Spouse does not feel satisfaction if use condom	30.1
OCP suits my body	20.1
Use two methods interchangeably	19.6
To prevent menstruation problems / regularize menstruation	17.8
Contraceptive pill is easy to use	11.4
No side-effects of contraceptive pill	11.0
Based on those switched to OCP	267

Table 2 shows that oral contraceptives were popular among women for various reasons. Out of 267 users 30% used OCP because their spouse does not feel satisfaction while use condom. Twenty percent of the users mentioned that OCP suits their body. But 19.6 % users use Condom and OCP interchangeably. About 18% women used OCP to prevent irregular problems of

menstruation. On the other hand, 11.4% users mentioned that contraceptive pill is easy to use and 11% users did not experience any side effects of Contraceptive pill.

5.3 Contraceptive Method Switching

Table 3: Switching of contraceptive method types among users (n=532)

	All (%)	OCP (%)	Condom (%)	ECP (%)
OCP	33.8	0.0	90.8	43.1
Injection	15.0	24.2	6.7	0.0
Condom	50.1	74.4	0.8	56.9
Others	1.0	1.4	1.7	0.0
Based on those are new users	532	267	186	79

Survey was performed on total 532 subjects. Table shows that 74% switched to condom from OCP. There were new users of OCP from condom users followed by injections. Most of the Emergency Contraceptive Pills users previously used condom, followed by OCP.

5.4 Reasons for Not Using OCP Currently

Table 4: Different reasons for Not Using OCP Currently in Sylhet (n=100)

	Sylhet (%)
Husband uses condom/other birth controlling method	24.0
Want to conceive	23.0
It creates dizziness (Vertigo occurs)	16.0
I take birth control injections	12.0
Follow “safe period”	10.0
Menstruation becomes irregular	9.0
Body becomes bulky/ fat deposits	6.0
Takes long time to become pregnant	5.0
Others	4.0
Based on -Non-user of OCP	100

This survey was done in Sylhet District and total 100 users were interviewed. These respondents do not use OCP. There are various reasons for not using the OCP. The main reason for not taking oral contraceptive currently is ‘husband uses condom’, followed by “the respondents want to conceive”. About 16% reported that OCP creates dizziness. Twelve percent took the injections for controlling birth. Ten percent of non-users follow safe period for unwanted

pregnancy. Only 9% mentioned that the menstruation becomes irregular if they take OCP. Six percent did not use OCP because of gaining weight. Only 5% non-users mentioned that after using OCP, even when they want to be pregnant, it takes long time.

5.5. Awareness of Family Planning Methods

Table 5: Awareness of family planning methods among population in different districts (Figure in %)

	Dhaka	Chittagong	Rajshahi	Khulna	Comilla	All
Oral Contraceptive	100.0	100.0	100.0	100.0	100.0	100.0
Condom	99.0	97.0	100.0	99.0	100.0	99.0
Injection	97.0	97.0	96.0	98.0	99.0	97.3
Tubectomy	88.0	85.0	92.0	71.0	97.0	86.8
Norplant	83.0	72.0	81.0	53.0	81.0	75.5
Natural through Abstinence	64.0	65.0	19.0	93.0	72.0	62.8
IUD	73.0	67.0	48.0	38.0	62.0	60.2
Vasectomy	77.0	53.0	40.0	34.0	55.0	56.0
Withdraw	69.0	65.0	16.0	51.0	11.0	46.8
Don't know / Cann't say	1.0	0.0	0.0	0.0	0.0	0.3
Base-User of OCP	200	100	100	100	100	600

In this survey, 5 districts were included and different types of contraceptive methods were used by users. After completing survey, we observed that 100% users were aware of Oral contraceptives, 99% were aware of Condom. Awareness of injection contraceptive has been

seen in about 97% population of different districts. About 87%, 76%, 63% and 60% population from different districts were aware of Tubectomy, Norplant, Natural through Abstinence and IUD respectively. Other methods like Vasectomy and Withdraw were also popular and used by 77% and 69% people in Dhaka district followed by Chittagong, Rajshahi, Khulna and Comilla.

Chapter 6

Discussion and Conclusion

6. Discussion and Conclusion

Oral Contraceptive Pill is more popular and convenient for women. Different reasons may lie on using this. Out of 1300 participants 600 (46%) were the user of OCP. Among them 47% participants were the new user and 53% were the old user. Almost all respondents were aware of OCP, condom and injection as family planning methods. OCP users are not comfortable when their husbands use condoms because of lacking of lubrication. Some dry condoms have problem of lubrication, the spouse doesn't satisfy rather feel irritated for using condoms. So, this one is the prime reason of why women switch to OCP. OCP was popular in 267 women for various reasons. Thirty percent felt that spouse does not feel satisfaction if they use condom and 20% women are suited by OCP. About 20% women interchangeably used two methods and 18% used OCP to prevent menstruation problems. About 11% used OCP because it is easy to use. There were several reasons for not using OCP among non-users. The reasons behind not using OCP were the spouse uses condoms, women wants to conceive, or OCP creates some side effects like dizziness etc.

On the other hand, Switching Tendency among Contraceptive Methods is increasing day by day because of development of new and comfortable formula. Different type of condoms are available in Bangladesh market. The objection of dry condoms is becoming low day by day and different lubricating condoms and different flavored condoms are available. So, spouse are more comfortable on using condoms than OCP as condom has less risk of Sexual Transmitted Infection (STI).

Like OCP, the ECP users has the same feeling or comfort on using condoms. The ECP users has the risk of STI sometimes but in using condoms, there is no risk of STI because of its composition. It has less side effects than ECP. Without some irritation, there is no side effects of condoms.

Now-a-days, people are very conscious of family planning. Women use different contraceptive methods like OCP, ECP, condoms for preventing pregnancy. Most of the spouse are aware of OCP, condom and injection as family planning methods but they are not using permanent family planning methods.

As we can see that population from different districts are 100% aware of OCP. Intra Uterine Device (IUD) is not so popular in Khulna as compared to Dhaka.

The percentage of withdrawal of contraceptives is low in Comilla and Rajshahi as compared to Dhaka, Chittagong and Khulna. Awareness of family planning is the vital role to prevent the unwanted pregnancy and people of different region of Bangladesh are more conscious about the family planning methods. Almost all respondents were aware of OCP, condom and injection as family planning methods. Awareness of permanent methods was relatively low.

It can be mentioned that Oral contraceptive method is more popular method among different women of different districts. This method is easy to use and people are very conscious about family planning. Although Oral contraception is easy and very active but sometimes it may not prevent the sexually transmitted diseases like HIV, AIDS, and STIs etc.

Chapter 7

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7. Reference

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